

Maryland Historical Trust

Maryland Inventory of Historic Properties number:

~~HO-35~~ HO-662

Name:

and Inventory of Historic Properties number: He 33, 10
Hipsley Mill Rd, over Carbon For.

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended	X
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Eligibility Not Recommended

Criteria: A B C D Considerations: A B C D E F G None

Comments:

Reviewer, OPS: Anne E. Bruder

Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze

Date: 3 April 2001

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Maryland Inventory of Historic Properties
Historic Bridge Inventory
Maryland State Highway Administration
Maryland Historical Trust

MHT Number HO-662

Name and SHA No. Hipsley Mill Road over Cabin Branch/HO35

Location:

Street/Road Name and Number: Hipsley Mill Road

City/Town: Annapolis Rock Vicinity x

County: Howard

Ownership: State x County Municipal Other

This bridge projects over: Road Railway x Water Land

Is the bridge located within a designated district: yes x no

 NR listed district NR determined eligible district

 locally designated other

Name of District

Bridge Type:

 Timber Bridge

 Beam Bridge Truss-Covered Trestle

 Timber-and-Concrete

 Stone Arch

 Metal Truss

 Movable Bridge

 Swing

 Bascule Single Leaf Bascule Multiple Leaf

 Vertical Lift Retractable Pontoon

x Metal Girder

 Rolled Girder Rolled Girder Concrete Encased

 Plate Girder Plate Girder Concrete Encased

 Metal Suspension

☐ Metal Arch

☐ Metal Cantilever

☐ Concrete

☐ Concrete Arch ☐ Concrete Slab ☐ Concrete Beam

☐ Rigid Frame

☐ Other Type Name _____

Description:

Describe Setting: Bridge HO35 carries Hipsley Mill Road over Cabin Branch in Howard County, Maryland. Hipsley Mill Road runs in a generally north-south direction at this location; Cabin Branch runs generally north-south. The bridge is located just inside the northern boundary of Patuxent River State Park. The land for this park was purchased in the early 1960's and the park was established to be an undeveloped state park used for hunting and fishing. There are no public recreational facilities in the park. There is one late 19th-early 20th century domestic structure visible from the bridge.

Describe Superstructure and Substructure: The superstructure of Bridge HO35 is a single span steel beam bridge, with a corrugated metal deck and bituminous overlay on the roadway. There are W-beam guard rails on both sides of the bridge deck and along the northeast and southwest approaches. The span length is approximately 25', with a total bridge length of approximately 30'. The substructure is stone masonry abutments and wing walls.

Discuss Major Alterations: The county bridge inspection reports give no indication that any major alterations have been made to HO35.

History:

When Built: 1935

Why Built: local transportation needs

Who Built: State Roads Commission

Why Altered: n/a

Was this bridge built as part of an organized bridge building campaign: yes

Surveyor Analysis:

This bridge may have NR significance for association with:

☐ A Events ☐ B Person

☐ C Engineering/Architectural

Was this bridge constructed in response to significant events in Maryland or local history: HO35 was not constructed in response to significant events in Maryland or local history. It is merely a typical example of bridge construction in the early 20th century.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area:No, construction and/or alteration of HO 35 did not have a major impact on the growth and development of the area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district:No, this bridge is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type:While HO35 does retain many of its original structural elements, it is not a significant example of a steel beam bridge.

Does the bridge retain integrity of the important elements described in the Context Addendum:Rolled wide flange beams are considered primary character defining elements. According to the 1995 inspection report they are in fair condition and have never been repaired or replaced. The same can be said for the floor system and the corrugated metal bridge deck, which are both considered secondary character defining elements. The inspection report recommends cleaning of debris and rust from the beams and repainting. W beam guard rails are considered tertiary character defining elements as additional functional features. The guard rails for HO35 have been replaced several times in the past years, most recently in 1989.

Stone masonry abutments and wing walls are considered a primary character defining element. While there is no documentary evidence that the abutments have been altered, it is obvious by looking at them that there has been an attempt to repair them by applying concrete. Even with this repair work they are still in poor condition, as indicated by the 1995 county inspection report. The report recommends immediate repair work to the abutments to prevent further deterioration.

While the superstructure of HO35 is in satisfactory condition, the severe state of disrepair of the abutments and wing walls places the integrity of the structure in doubt.

Is the bridge a significant example of the work of the manufacturer, designer, and/or engineer and why:No, HO35 is not a significant example of the work of a manufacturer, designer and/or engineer.

Should this bridge be given further study before significance analysis is made and why:No, this bridge should no be given further study before significance analysis is made.

Bibliography:

Howard County

v.d Bridge Inspection Files.

Greiner, Inc.

1995 Historic Bridge Inventory Form.

Spero, P.A.C. & Company, and Louis Berger & Associates

1994 Historic Bridges in Maryland: Historic Bridge Context.

United States Geological Survey

1945 7.5' Woodbine Quadrangle, photorevised 1979.

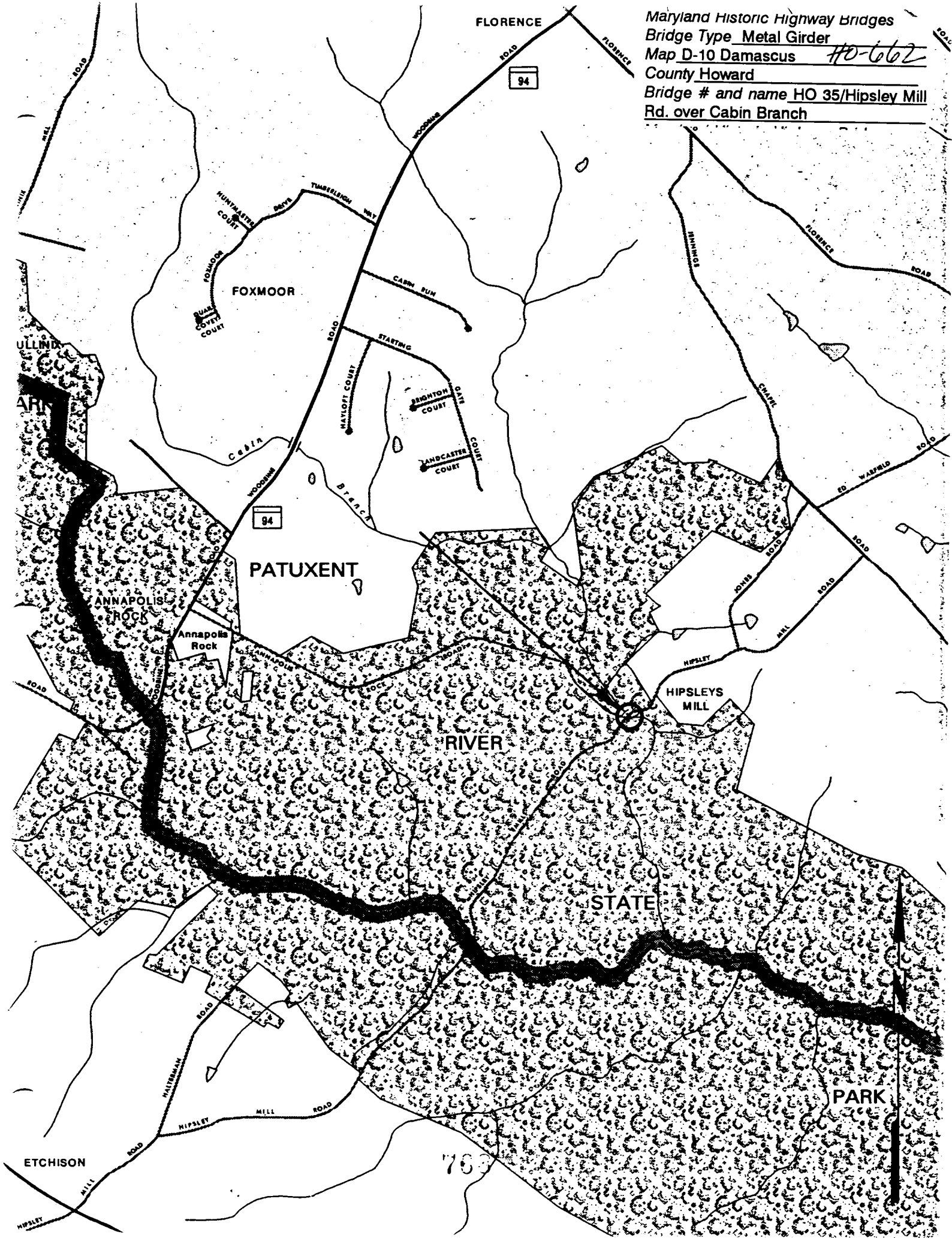
Surveyor:

Name: Stephanie L. Bandy **Date:** August 1995

Organization: State Highway Admin. **Telephone:** (410) 321-2213

Address: 2323 West Joppa Road Brooklandville, MD 21022

Maryland Historic Highway Bridges
Bridge Type Metal Girder
Map D-10 Damascus *HO-662*
County Howard
Bridge # and name HO 35/Hipsley Mill
Rd. over Cabin Branch





15 DEC

WARNING
WEIGHTS AND LOADS
EXCEEDS DESIGN LOADS
SPEED NOT TO EXCEED
30 MPH

Inventory # HO-662

Name H035-HIRSLEY MILL RD OVER ^{CABIN}
BRANCH

County/State HOWARD / MD

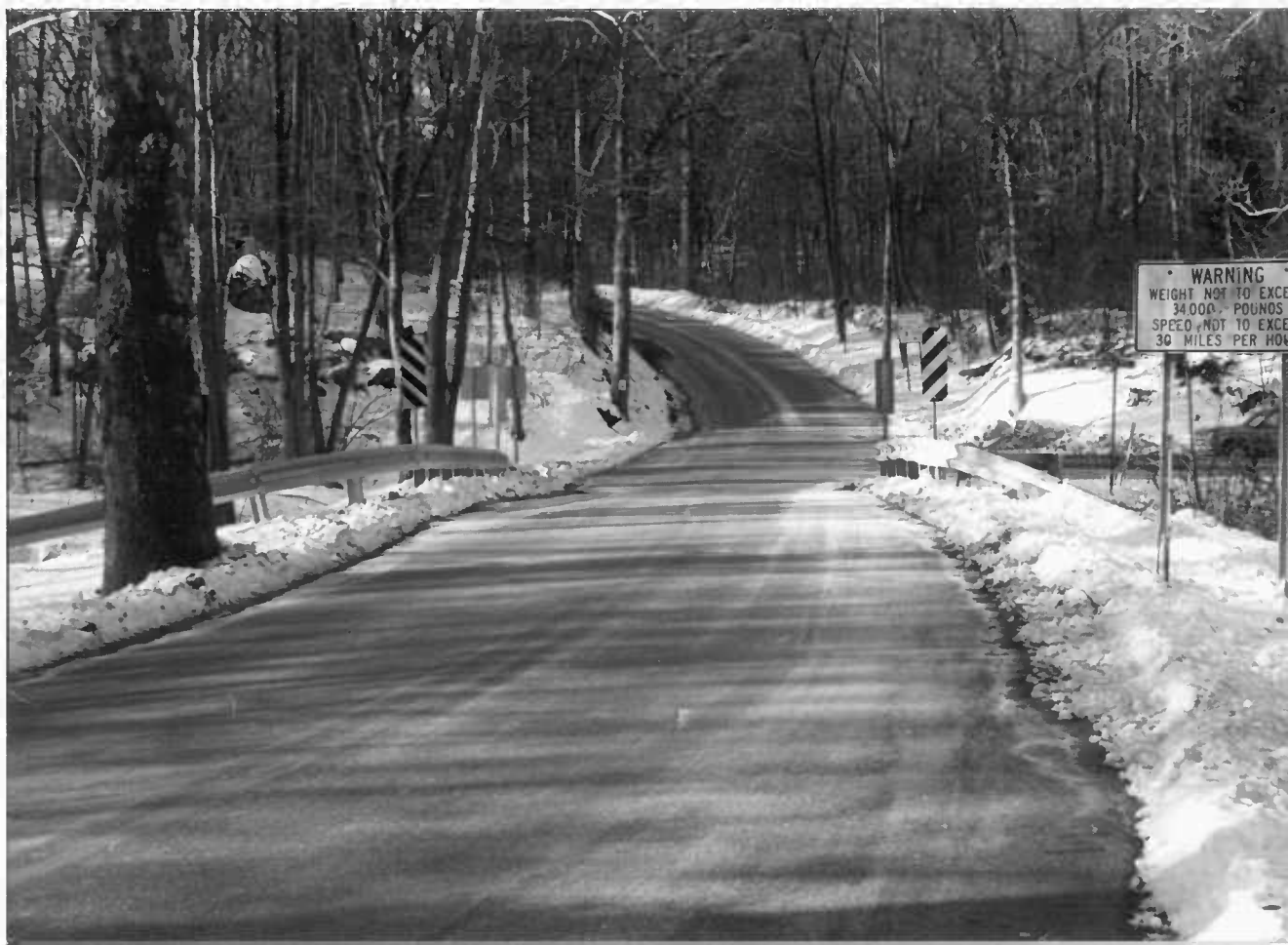
Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description SOUTH APPROACH LOOKING
NORTHEAST

Number ¹13 of ⁴31



• WARNING •
WEIGHT NOT TO EXCEED
34,000 POUNDS
SPEED NOT TO EXCEED
30 MILES PER HOUR

Inventory # HO-6662

Name HOBS - HIPSLEY MILL RD OVER CABIN BRANCH

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description NORTH APPROACH LOOKING
SOUTHWEST

2
Number 14 of 31

2000-02-10 10:00:00



Inventory # H0-662

Name H035 - HIPSLEY MILL RD OVER CABIN BRANCH

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description EAST ELEVATION LOOKING

~~WEST~~ NORTH

3 4

Number 15 of 31



Inventory # H0-662

Name H035- HIBBLEY MILL RD OVER CABIN BRANCH

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description WEST ELEVATION LOOKING
EAST

4 4
Number 16 of 31

**INDIVIDUAL PROPERTY/DISTRICT
MARYLAND HISTORICAL TRUST
INTERNAL NR-ELIGIBILITY REVIEW FORM**

Bridge

Property/District Name: Hipsley Mill Road over Cabin Branch Survey Number: HO-662
Project: Bridge replacement Agency: HO DPW

Site visit by MHT Staff: X no yes Name Date

Eligibility recommended Eligibility not recommended XX

Criteria: A B XC D Considerations: A B C D E F G
 None

(Bridge No. SHA-No 35)

Justification for decision: (Use continuation sheet if necessary and attach map)

Based on the available information, the Hipsley Mill Road Bridge over Cabin Branch, Howard County is a 1935 rolled metal girder bridge. It is missing its original deck which was replaced in 1960, and the parapets were removed at an earlier unknown date. Steel guardrails replaced an earlier set in 1989. The girders have poor integrity, displaying heavy rust. The two abutments upon which the bridge sits have also been frequently patched in the past. Based on this information, the Hipsley Mill Road Bridge is not eligible for the National Register of Historic Places. It lacks the requisite integrity necessary for consideration of eligibility.

Documentation on the property/district is presented in: Project Review and Compliance
Prepared by: Paula Spero & Company and Howard County Dept. of Public Works

Anne E. Bruder 2/20/98
Reviewer, Office of Preservation Services Date

NR program concurrence: X yes no not applicable

Peter Antunty 2/23/98
Reviewer, NR program Date

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

- ☐ Eastern Shore (all Eastern Shore counties, and Cecil)
☐ Western Shore (Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
☒ Piedmont (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
☐ Western Maryland (Allegany, Garrett and Washington)

II. Chronological/Developmental Periods:

- ☐ Paleo-Indian 10000-7500 B.C.
☐ Early Archaic 7500-6000 B.C.
☐ Middle Archaic 6000-4000 B.C.
☐ Late Archaic 4000-2000 B.C.
☐ Early Woodland 2000-500 B.C.
☐ Middle Woodland 500 B.C. - A.D. 900
☐ Late Woodland/Archaic A.D. 900-1600
☐ Contact and Settlement A.D. 1570-1750
☐ Rural Agrarian Intensification A.D. 1680-1815
☐ Agricultural-Industrial Transition A.D. 1815-1870
☐ Industrial/Urban Dominance A.D. 1870-1930
☒ Modern Period A.D. 1930-Present
☐ Unknown Period (☐ prehistoric ☐ historic)

III. Prehistoric Period Themes:

- ☐ Subsistence
☐ Settlement
☐ Political
☐ Demographic
☐ Religion
☐ Technology
☐ Environmental Adaptation

IV. Historic Period Themes:

- ☐ Agriculture
☒ Architecture, Landscape Architecture, and Community Planning
☐ Economic (Commercial and Industrial)
☐ Government/Law
☐ Military
☐ Religion
☐ Social/Educational/Cultural
☒ Transportation

V. Resource Type:

Category: Structure
 Historic Environment: Rural
 Historic Function(s) and Use(s): Bridge/Transportation
 Known Design Source:

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. HO-662

SHA Bridge No. HO 035 Bridge name Hipsley Mill Road Bridge over Cabin Branch

LOCATION:

Street/Road name and number [facility carried] Hipsley Mill Road

City/town Hipsley Mill Vicinity _____

County Howard

This bridge projects over: Road _____ Railway _____ Water X Land _____

Ownership: State _____ County X Municipal _____ Other _____

HISTORIC STATUS:

Is the bridge located within a designated historic district? Yes _____ No X

National Register-listed district _____ National Register-determined-eligible district _____

Locally-designated district _____ Other _____

Name of district _____

BRIDGE TYPE:

Timber Bridge _____:

Beam Bridge _____ Truss -Covered _____ Trestle _____ Timber-And-Concrete _____

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge _____:

Swing _____

Vertical Lift _____

Bascule Single Leaf _____

Retractable _____

Bascule Multiple Leaf _____

Pontoon _____

Metal Girder X _____:

Rolled Girder X _____

Plate Girder _____

Rolled Girder Concrete Encased _____

Plate Girder Concrete Encased _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete _____:

Concrete Arch _____ Concrete Slab _____ Concrete Beam _____ Rigid Frame _____

Other _____ Type Name _____

DESCRIPTION:Setting: Urban _____ Small town _____ Rural X**Describe Setting:**

Bridge HO 035 carries Hipsley Mill Road over Cabin Branch in Howard County. Hipsley Mill Road runs northeast-southwest and Cabin Branch flows northwest-southeast. The bridge is located at Hipsley Mill, and is surrounded by woodland and one (1) residence. The bridge is located in the Patuxent River State Park, approximately 30.48 meters (100 feet) north of the intersection of Hipsley Mill Road and Annapolis Rock Road.

Describe Superstructure and Substructure:

Bridge HO 035 is a single-span, two-lane, metal girder bridge constructed in 1935. The original deck and road surfaces were replaced circa 1960 and the bridge railings were replaced by guardrails at an unknown date. The guardrails were replaced again in 1989 with steel guardrails. The structure is 8.69 meters (28.5 feet) long and has a clear roadway width of 5.89 meters (19.3 feet); there are no sidewalks. The out-to-out width is 6.1 meters (20 feet). The bridge was built on a 14° skew. The superstructure consists of ten (10) rolled girders which support a corrugated metal and concrete deck and steel guardrails. The girders are 139.7 millimeters (5.5 inches) wide x 381 millimeters (15 inches) deep and are spaced an average of 0.62 meters (2.05 feet) apart. The roadway is carried on the girders. The corrugated metal and concrete deck is 114 millimeters (4.5 inches) thick and it has a bituminous wearing surface. The structure has steel guardrails and the roadway approaches have steel guardrails and no shoulders. The substructure consists of two (2) stone abutments that have areas of gunite patches and stone and concrete riprap. There are four (4) flared stone wing walls with gunite caps. The southwest wing wall has been partially covered with asphalt. The bridge is posted for 18.74 tonnes (17 tons) and 48 kilometers per hour (30 miles per hour), and has a sufficiency rating of 25.9%.

According to the 1997 inspection report, this structure was in poor condition with rusting on the girders and a large pothole on the deck. The asphalt wearing surface is uneven with some cracking, and the pothole has been covered with a steel plate. The girders have moderate rust, and the corrugated metal deck is heavily rusted. There is dirt and debris accumulating on the beam seats. The stone masonry abutments and wingwalls have been patched with gunite and asphalt, which is deteriorating in areas. The exposed masonry exhibits moderate mortar loss.

Discuss Major Alterations:

The original deck and road surfaces were replaced circa 1960 with a new corrugated metal and concrete deck. Gunite was applied to the abutments and wing walls in 1981-1982, and a large pothole on the deck was covered with a steel plate in 1997. The original railings were first replaced with guardrails at an unknown date. The current guardrails date to 1989.

HISTORY:WHEN was the bridge built: 1935This date is: Actual _____ X _____ Estimated _____Source of date: Plaque _____ Design plans _____ County bridge files/inspection form X

Other (specify): _____

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

The bridge was altered to correct functional or structural deficiencies.

Was this bridge built as part of an organized bridge-building campaign?

Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

- A - Events _____ B- Person _____
C- Engineering/architectural character _____

Bridge HO 035, Hipsley Mill Road Bridge, was determined eligible for the National Register of Historic Places by the Interagency Review Committee in 1996. P.A.C. Spero & Company requests that the National Register eligibility of this structure be reconsidered. The bridge is recommended as not eligible for the National Register. A significant example of a metal girder bridge should possess character-defining elements of its type, and be readily recognizable as an historic structure from the perspective of the traveler. The integrity of distinctive features visible from the roadway approach, including railings, is important in structures such as bridge HO 035, which are common examples of their type. The railing of the structure has been replaced. The new railing is a steel guardrail which extends across the bridge and along the roadway approaches. The structure also lacks the integrity of its character-defining elements.

The revised 1995 Historic Highway Bridges in Maryland: 1631-1960 describes the history and structural components of each type of bridge within Maryland. The components or members needed for assessing historic integrity are known as character defining elements (CDE's). The alteration, elimination, and present condition of CDE's should be taken into account when determining a structure's integrity. Bridge HO 035 is a rolled metal girder bridge and according to Appendix C in the Historic Highway Bridges in Maryland:1631-1960 a rolled metal girder bridge has three primary CDE's. The primary CDE's for a rolled metal girder bridge include rolled longitudinal I-beams, abutments of stone concrete or timber and a pier, if applicable. Bridge HO 035 possesses two character-defining elements; the rolled girders and stone abutments. The historic integrity of the structure has been compromised by the condition and alteration of these elements. The rolled metal girders are in poor condition, with heavy rusting and section loss of the bearing plates and fascia beams. The interior beams have moderate section loss and rusting. The stone masonry abutments and wingwalls have minor mortar loss. The masonry has been coated with gunite from a repair in 1981-1982, which is cracking, and the southwest wingwall has been covered with asphalt.

Therefore, bridge HO 035 is recommended as not eligible of the National Register of Historic Places.

Was the bridge constructed in response to significant events in Maryland or local history?

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of Milholland's 54-foot-long span were wholly of wrought iron and included a top flange reinforced with a 12x12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost \$2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

As in the nation, girder bridge technology in Maryland was quickly adapted to cope with the increasingly heavy traffic demands of the twentieth century caused by automobile and truck traffic. The 1899 Maryland Geological Survey report on highways noted that "there are comparatively few I-beam bridges, one of the cheapest and best forms for spans less than 25 or 30 feet" (Johnson 1899:206). Interestingly, the report also urged construction of a composite metal, brick, and concrete bridge, noting that "no method of construction is more durable than the combination of masonry and I-beams, between which are transverse arches of brick, the whole covered with concrete, over which is laid the roadway" (Johnson 1899:206). Whether any such bridges (transitional structures between I-beams and reinforced concrete spans) were built is unknown.

Official state and county highway reports—issued between 1900 and the early 1920s through the Highway Division of the Maryland Geological Survey and its successor, the State Roads Commission, generally do not reference or describe girder construction. An analysis of the current statewide listing of county and municipal bridges (a listing maintained by the State Highway Administration) reveals that 48 county bridges, out of the total of 141 approximately dated to "1900" by county engineers, were listed as steel girder, steel stringer, or variants of such terms. (It should be noted that the "1900" date is often given when no exact date is pinpointed for a bridge that is clearly old). A grand total of 200 bridges (including "steel culverts"), out of 550 bridges dated on the county list between 1901 and 1930, were described as steel beam, steel girder, or steel stringer and girder varieties. The total suggests that among the various highway bridge types built in the early twentieth century metal girder bridges in Maryland between 1900 and 1930 were second in popularity only to reinforced concrete bridges. However, these numbers must be interpreted with caution, as they do not necessarily include all county and municipal bridges.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is an undistinguished example of a metal girder bridge which lacks integrity of its character-defining elements.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge does not retain integrity of the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including the rolled metal girders and stone abutments.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is not a significant example of the work of a manufacturer, designer, and/or engineer.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files X SHA inspection/bridge files
Other (list):

Gunnarson, Robert

1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario.* Greenberg Publishing Co., Sykesville, Maryland.

Johnson, Arthur Newhall

1899 *The Present Condition of Maryland Highways. Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

Tyrrell, Henry G.

1911 *History of Bridge Engineering.* Published by author, Chicago.

SURVEYOR:

Date bridge recorded November 1997

Name of surveyor Caroline Hall/Ryan McKay

Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204

Phone number (410) 296-1635 FAX number (410) 296-1670

Hipsley Mill Road Bridge Project
Town/County Woodbine vicinity/Howard Co.
Quad Woodbine, MD
Survey No. HO-662
Property Name Hipsley Mill Road Bridge

Location of Bridge

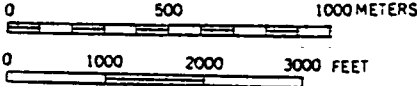
Hipsleys Mill

PATUXENT RIVER STATE PARK

Patuxent

HOWARD CO
MONTGOMERY CO

River





$$1. \quad \text{if } x \in \mathbb{C} \setminus \mathbb{R}$$

$$2. \quad \text{if } x \in \mathbb{R} \setminus \{0\} \quad \text{if } x \in \mathbb{R} \setminus \{0\}$$

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HP-442

2. 1000 PM - 8:45 AM

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7. 1000 PM - 8:45 AM



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$$2. \quad H_1: \mu > 0 \quad \text{or} \quad \mu < 0 \quad \text{or} \quad \mu \neq 0$$

$$3. \quad H_0: \mu = 0 \quad \text{or} \quad \mu < 0$$

$$4. \quad H_0: \mu = 0$$

$$5. \quad H_0: \mu = 0$$

$$6. \quad H_0: \mu = 0$$

$$7. \quad H_0: \mu = 0 \quad \text{or} \quad \mu < 0 \quad \text{or} \quad \mu > 0$$

$$8. \quad H_0: \mu = 0$$